

REMARKS

In response to the Office Action dated 20 May 2004, the applicants request reconsideration of the above-identified application in view of the following remarks. Claims 1-30 are pending in the application, and are rejected. None of the claims are amended herein.

Telephone Interview

The applicants thank Examiner Phan for the telephone interview granted on Monday, August 2, 2004 between himself and the applicants' representative Mr. Mates (Reg. No. 35,271). The substance of this response was discussed during the interview.

Rejections of Claims Under §103

Claims 1, 4, 8-11, 14-18, 20-24 and 26 were rejected under 35 USC § 103(a) as being unpatentable over Oprescu et al. (U.S. 5,325,355, Oprescu) in view of Schlyter (U.S. 4,363,121). The applicants respectfully traverse.

Claim 1 recites an integrated circuit comprising, among other elements, a receiver having input hysteresis.

Oprescu relates to a bus system shown in Figure 1 including a first node 51 coupled to a second node 52 by a serial bus 45 including "two pairs of signal wires 40,41 and 42,43 with each pair forming a transmission channel 20 for the transmission of differential signals."¹

Oprescu shows transmitting data in a data transfer phase and transmitting arbitration information in an arbitration phase.² As the Office Action indicates:

"Oprescu et al. do not specifically disclose the use of a receiver having input hysteresis having a threshold set such that the initial voltage value does not change an output state of the receiver."³

Schlyter relates to simultaneous bidirectional transmission of information.⁴ Schlyter describes a Schmitt trigger⁵ and the Office Action states that it would have been obvious to combine Schlyter with the system of Oprescu.⁶

¹ Oprescu col. 5, lines 24-33.

² Oprescu, col. 5, lines 24-48.

³ Office Action, page 2.

The MPEP requires a suggestion and a reasonable expectation of success for a rejection under 35 USC § 103:

“To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.”⁷

The suggestion or motivation to combine references and the reasonable expectation of success must both be found in the prior art.⁸

The Office Action states:

“it would have been obvious ... to have combined the teachings of Schlyter within the system of Oprescu et al. because it would provide reduce the transients and noise from the signals.”⁹

The applicants respectfully submit that the Office Action has not established a *prima facie* case of obviousness of claim 1. The Office Action has not identified prior art as being the source of the above-quoted rationale for combining Oprescu and Schlyter as is required by MPEP 2143.

The Office Action has also not identified a reasonable expectation of success in the prior art as is required by MPEP 2143.

Oprescu operates in a data transfer phase and an arbitration phase.¹⁰ During the arbitration phase, three signal states (0, 1, and Z) are used to enable duplex transmission of control signals, and each of the three states (0, 1, and Z) are each represented by a current amplitude on the bus 45.¹¹ The specific currents used to represent 0, 1, and Z are described in Column 8 of Oprescu.¹² The bus 45 is coupled to level shifting circuits 10 in the receivers 5,

⁴ Schlyter, Title.

⁵ Schlyter, col. 3, lines 24 and 55-60.

⁶ Office Action, page 3.

⁷ MPEP 2143.

⁸ MPEP 2143.

⁹ Office Action, page 3.

¹⁰ Oprescu, col. 5, lines 24-48.

¹¹ Oprescu, col. 6, 37-63.

¹² Oprescu, col. 8, lines 1-12.

6, and 7 that receive the current amplitude.¹³ A level shifting circuit 10 is shown in Figure 2.¹⁴

The Office Action has not stated where the Schmitt trigger of Schlyter would be placed in the circuit of Oprescu, and has not stated how Oprescu would work with the added Schmitt trigger. The Office Action has not, therefore, identified a reasonable expectation of success of such a combination in the prior art as is required by MPEP 2143.

In fact, Oprescu teaches away from such a combination:

“the binary receivers 5 of the present invention do not require hysteresis, thereby minimizing the duty-cycle distortion of the received data.”¹⁵

Oprescu indicates that hysteresis, such as that provided by Schlyter, is not needed, and the absence of hysteresis minimizes “the duty-cycle distortion of the received data.” The Office Action has not identified a suggestion for adding hysteresis to Oprescu in the prior art in view of the statement of Oprescu that such hysteresis is not needed.

The applicants respectfully submit that a *prima facie* case of obviousness has not been established for claim 1, and that claim 1 is in condition for allowance. Claims 4, 8-11, 14-18, 20-24 and 26 were similarly rejected based on the combination of Oprescu and Schlyter. For reasons analogous to those stated above, and the features in the claims, the applicants respectfully submit that a *prima facie* case of obviousness has not been established for claims 4, 8-11, 14-18, 20-24 and 26, and that claims 4, 8-11, 14-18, 20-24 and 26 are in condition for allowance.

Claims 2, 3, 5-7, 10, 13, 19 and 27 were rejected under 35 USC § 103(a) as being unpatentable over Oprescu in view of Schlyter and Klein (U.S. 6,040,714). The applicants respectfully traverse.

Klein issued on 21 March 2000, which is less than one year before the 23 August 2000 filing date of the present application. The applicants do not admit that Klein is prior art, and reserve the right to swear behind Klein at a later date.

¹³ Oprescu, Figure 1.

¹⁴ Oprescu, col. 13, lines 62-63.

¹⁵ Oprescu, col. 9, lines 27-31.

Claim 2 recites the integrated circuit of claim 1 “wherein the driver comprises a pullup transistor having an output impedance, and a pulldown transistor having an output impedance, the output impedance of the pullup transistor being greater than the output impedance of the pulldown transistor.”

The Office Action indicates:

“Oprescu et al. or Schlyter do not specifically disclose the driver comprising the pullup transistor having an output impedance, and the pulldown transistor having an output impedance, the output impedance of the pullup transistor being greater than the output of the pulldown transistor.”¹⁶

Klein relates to a method for providing two modes of I/O pad termination.¹⁷ The Office Action has not identified a suggestion for combining Oprescu, Schlyter, and Klein in the prior art as is required by MPEP 2143.

The Office Action states:

“it would have been obvious ... to have combined the teachings of Klein within the system of Oprescu et al. and Schlyter because it would provide the voltage changes at the output terminals.”¹⁸

The Office Action has not identified prior art as being the source of the above-quoted rationale for combining Oprescu, Schlyter, and Klein as is required by MPEP 2143.

Claims 2, 3, 5-7, 10, 13, 19 and 27 are variously dependent on independent claims 1, 9, 14, and 24 discussed above. The Office Action has not identified in Klein a suggestion for combining Oprescu with Schlyter that is missing in the rejection of claims 1, 9, 14, and 24 discussed above.

For reasons analogous to those stated above, and the features in the claims, the applicants respectfully submit that a *prima facie* case of obviousness has not been established for claims 2, 3, 5-7, 10, 13, 19 and 27, and that claims 2, 3, 5-7, 10, 13, 19 and 27 are in condition for allowance.

¹⁶ Office Action, page 3.

¹⁷ Klein, Title.

¹⁸ Office Action, page 4.

Claims 28 and 30 were rejected under 35 USC § 103(a) as being unpatentable over Oprescu in view of Potter et al. (U.S. 5,261,105, Potter). The applicants respectfully traverse.

Claim 28 recites a method of synchronizing an agent to a bidirectional bus comprising “de-asserting a ready signal to drive a transmission line having a second agent driver present thereon to signify the agent is not ready to communicate on the bidirectional bus”, “asserting the ready signal to signify the agent is ready to communicate on the bidirectional bus”, and “monitoring the transmission line for an indication that both the agent and the second agent are ready to communicate on the bidirectional bus.”

The Office Action indicates:

“Oprescu et al. do not specifically disclose the ready signal to initiate the agent is ready to communicate on the bus and monitoring the transmission line for an indication that both the agent and the second agent are ready to communicate on the bi-directional bus.”¹⁹

Potter relates to a system for transferring blocks of data.²⁰ The Office Action has not identified a suggestion for combining Oprescu with Potter in the prior art as is required by MPEP 2143. The Office Action states:

“it would have been obvious ... to have combined the teachings of Potter et al. within the system of Oprescu et al. because it would provide an improved arrangement for performing data transfers, in particular of blocks of data, among units.”²¹

The Office Action has not identified prior art as being the source of the above-quoted rationale for combining Oprescu and Potter as is required by MPEP 2143. Furthermore, Oprescu relates to the “transfer of data signals,”²² but does not appear to relate to the transfer of blocks of data. There does not appear to be a link between the above-quoted rationale and Oprescu.

The applicants respectfully submit that a *prima facie* case of obviousness has not been established for claim 28, and that claim 28 is in condition for allowance. Claim 30 is dependent on claim 28, and recites further features with respect to claim 28. For reasons analogous to those stated above, and the features in the claim, the applicants respectfully

¹⁹ Office Action, page 5.

²⁰ Potter, Title.

²¹ Office Action, page 5.

²² Oprescu, Abstract.

submit that a *prima facie* case of obviousness has not been established for claim 30, and that claim 30 is in condition for allowance.

Claim 29 was rejected under 35 USC § 103(a) as being unpatentable over Oprescu in view of Potter and Klein. The applicants respectfully traverse.

Claim 29 recites the method of claim 28 wherein asserting the ready signal comprises “turning off a pulldown transistor having a first output impedance”, and “turning on a pullup transistor having a second output impedance, wherein the second output impedance is greater than the first output impedance.”

The Office Action indicates that Oprescu and Potter do not show:

“the driver comprising the pullup transistor having an output impedance, and the pulldown transistor having an output impedance, the output impedance of the pullup transistor being greater than the output of the pulldown transistor.”²³

The Office Action has not identified a suggestion for combining Oprescu with Potter and Klein in the prior art as is required by MPEP 2143. The Office Action states:

“it would have been obvious ... to have combined the teachings of Klein within the system of Oprescu et al. and Potter et al. because it would provide the voltage changes at the output terminals.”²⁴

The Office Action has not identified prior art as being the source of the above-quoted rationale for combining Oprescu, Potter, and Klein as is required by MPEP 2143.

Claim 29 is dependent on claim 28 discussed above, and recites further features with respect to claim 28. The Office Action has not identified in Klein a suggestion for combining Oprescu and Potter that was missing in the rejection discussed above.

For reasons analogous to those stated above, and the features in the claim, the applicants respectfully submit that a *prima facie* case of obviousness has not been established for claim 29, and that claim 29 is in condition for allowance.

²³ Office Action, page 6.

²⁴ Office Action, page 6.

CONCLUSION

The applicants respectfully submit that all of the pending claims are in condition for allowance, and such action is earnestly solicited. The Examiner is invited to telephone the below-signed attorney at 612-373-6973 to discuss any questions which may remain with respect to the present application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

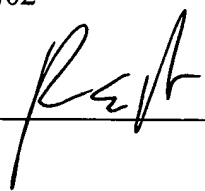
Respectfully submitted,

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Date 18 August 2004

By 
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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 18 day of August, 2004.

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